Airmen's design helps train future pilots

By 1st Lt. Jennifer Andrews
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Aerospace Physiology received two new tools Tuesday to help student pilots combat spatial disorientation and airsickness.

"Staff Sgt. Michael Mazza and I felt our 1960's Barany chair needed to be overhauled and updated," said Senior Master Sgt. Timothy Kepsel, 479th Operation Support Squadron superintendent.

The Barany chair's ability to make individuals airsick in addition to demonstrating spatial disorientation is considered a useful tool to assist in managing airsickness. The program involves having to spin in the chair three days in a row, three consecutive spins each day for approximately 10 minutes. On the last day, students will be spun up to 60 revolutions per minute. Moody's 1960 Barany chair had to be spun by hand by one of the instructors.

"Once we decided to go forward on the acquisition of the motorized chairs, we talked to others in the aerospace physiology field and were pointed to two individuals at the Naval Aerospace Medical Research Laboratory in Pensacola," said Sergeant Mazza, formerly from the 479th Operations Support Squadron.

Sergeants Mazza and Kepsel spoke with Mr. Rick Wartman and Mr. Tom Allen at NAMRL, who worked and constructed a Navy chair, then went to inspect it for themselves.

"We found that having a motorized chair would allow our instructors to focus on more important things, such as how the student was using the tools we gave them to combat airsickness and found a motorized chair would ensure continuity between instructors," said Sergeant Mazza.

After Sergeants Kepsel and Mazza returned to Moody, they began working on basic design and requirements for the new chairs.

"These are custom built chairs," said Rick Wartman, the mechanical engineer who did the mechanical designs for the chairs. "They had unique applications and processes that we applied to this chair."

One of the unique specifications is the closed-loop system which keeps the speed at a constant rate per minute. Unlike other chairs where the speed slows or increases depending on the position of the student, Moody's chairs remain at a constant speed.

(Photo by Staff Sgt. Manuel Martinez)

Senior Master Sgt. Timothy Kepsel (right) gives Staff Sgt. Mary Hefty a first hand demonstration of the Barany Chair's capabilities. Both are aerospace physiology instructors assigned to the 479th Operations Support Squadron.

Another requirement is having the speed controlled by a separate person and not the student.

"We built something similar for the Navy called the Self-Paced Airsickness Desensitization chair," said Mr. Wartman. "The student controls the speed, but the Air Force wanted a separate person to control speed."

The hard work conducted by the NAMRL didn't go unappreciated.

"The dedication, engineering and craftsmanship the members of the Naval Aerospace Medical Research Laboratory is outstanding," said Sergeant Kepsel. "These new chairs increased our ability at Moody to provide better, more efficient training to our students."

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